

Appl. No.: 10/608,734  
Amdt. dated February 15, 2005  
Reply to Office action of November 15, 2004

### **REMARKS/ARGUMENTS**

Based on the above amendment and the following remarks, Applicant respectfully submits that all the pending claims are in condition for allowance.

#### **Status of the Claims**

Claims 1-65 remain pending.

#### **Information Disclosure Statement**

References AN, AO, and AP from the information disclosure statement have not been considered on their merits because the publication dates of these references were not provided. The full citations are provided below, and these references are being re-submitted in an accompanying IDS.

Cohen, I., and Coifman, L.C., 2002, Local discontinuity measure for 3-D seismic data:

Geophysics, vol. 67, pgs. 1933-1945.

Chopra, S., 2001, Integrating coherence cube imaging and seismic attributes: Recorder, vol.

26, no. 12, pgs. 20-22.

Celis, V. and Lamer, K., 2002, Selective-correlation velocity analysis, 72nd Ann. Internat.

Mtg: Soc. of Expl. Geophys., pgs. 2289-2292.

#### **Objections to the Specification**

The examiner objected to the abstract, presumably because it used the phrases "are disclosed" and "comprises". A substitute abstract is provided above with these phrases removed.

#### **Objections to the Claims**

The examiner objected to claims 5, 7, 12-14, 27, 29, 34-36, 53-55, and 62-63, as being dependent on a rejected base claim. Amendment of these claims is hereby deferred while the prosecution of the rejected claims is pending.

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**Rejections Under 35 USC § 102 and 103**

Claims 1-4, 6, 8-11, 15-26, 28, 30-33, 37-46, 48-52, 56-61 and 64 stand rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 4,528,649 ("Gassaway"). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicant hereby traverses these rejections because the cited art fails to teach every element of the claims.

Claims 47 and 65 stand rejected under 35 USC § 103(a) as being unpatentable over Gassaway. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). See MPEP 2143.03. Applicant hereby traverses these rejections because the cited art fails to teach or suggest all limitations of the claims.

For example, independent claim 1, recites in part "combining vectors from [a] vector set to determine a representative vector for the vector set". The examiner cites Gassaway's col. 2, line 20 to col. 3, line 2 ("Summary"), as teaching this limitation. Gassaway's summary concerns (i) benefits of improving resolution of refraction data (Summary, para. 1), (ii) a roll-along technique to obtain refraction displays (Summary, para. 2), (iii) refraction display patterns for indicating strata shapes (Summary, para. 3), and (iv) refractor bed depth determinations (Summary, para. 4). Applicant can find no teaching or suggestion of a representative vector here or elsewhere in Gassaway. For at least this reason, Applicant maintains that independent claim 1 and its dependent claims 2-17 are allowable over the cited art.

Independent claim 1 further recites "calculating a continuity measurement for [a] vector set". The examiner cites Gassaway's summary as teaching this limitation. Perhaps the examiner is construing the "breaktimes" mentioned in paragraph 3 of Gassaway's summary as some form of continuity—but even if this were valid, Gassaway teaches no calculation of a measurement related to these breaktimes. Thus, Gassaway fails to teach or suggest calculating a continuity measurement as required by the claims. For at least this reason, Applicant maintains that independent claim 1 and its dependent claims 2-17 are allowable over the cited art.

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Independent claim 18 recites in part "determining a representative vector for the vector set". Independent claims 23, 40, 45, 56, and 65 recite similar limitations. The examiner again cites Gassaway's summary as teaching this limitation. As argued above, Gassaway fails to teach or suggest here or elsewhere a representative vector. For at least this reason, Applicant maintains that independent claims 18, 23, 40, 45, 56, and 65, along with their respective dependent claims, are allowable over the cited art.

Independent claim 18 further recites in part "calculating a continuity measurement for the vector set". Independent claims 23 and 40 recite in part "calculating a discontinuity measurement for the vector set". Independent claims 45, 56, and 65 recite in part "calculating a continuity or discontinuity measurement" or a similar limitation. In rejecting each of these claims, the examiner cites Gassaway's summary as teaching these limitations. As argued above, Gassaway fails to teach or suggest calculating a continuity measurement here or elsewhere. Gassaway further fails to teach or suggest calculating a measurement of discontinuity. For at least this reason, Applicant maintains that independent claims 18, 23, 40, 45, 56, and 65, along with their respective dependent claims, are allowable over the cited art.

### Conclusion

Applicant submits that this response constitutes a complete response to all of the issues raised in the office action of November 15, 2004. Applicant has proposed amendments to address the examiner's objections to the Abstract. Applicant has responded to the various rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a). In view of the foregoing amendments and remarks, Applicant submits that all pending claims are now in condition for allowance, and an early notice to that effect is earnestly solicited.

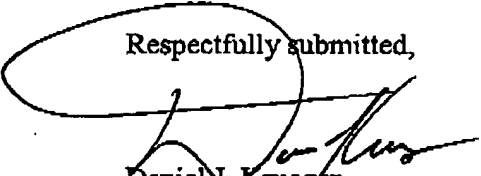
In the course of the foregoing discussions, Applicant may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art which have yet to be

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raised, but which may be raised in the future.

If any fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Conley Rose, P.C. Deposit Account Number 03-2769/2149-00300/HDJK.

Respectfully submitted,



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